

XP-002226578

<p>98-036264/04 A97 E17 MITK 96.04.25  MITSUI TOATSU CHEM INC  96.04.25 96JP-105127 (97.11.11) B01J 31/12, C07C 29/38, 33/02,  33/18, 67/293, 69/145, 69/21, C07D 213/48 // C07B 61/00, C08F 14/26,  16/24  <b>Acid catalyst - contg. a metal supported polymer compound, useful  for producing allyl alcohol(s) by reacting a carbonyl compound  and an allylation agent</b>  C98-012406</p>	<p>A(1-D9, 10-E1, 12-W11K) E(10-A9B8, 10-C4F, 10-  C4J2, 31-C, 31-K5C, 34-E) A0354</p>
<p>An acid catalyst contg. a metal supported polymer compound having a  repeating unit of formula (1):  <math display="block">((([-(-CF_2-CF_2)_n-CF-CF_2-]_y-O-CF(R_1)-CF(R_2)-)_m-O-CF(R_1)-CF(R_2)-SO_3)_p, M^{+}X_q (1)</math>  <math>R_1, R_2 = F \text{ or perfluoroalkyl of 1-8C;}</math>  <math>M = \text{a group III metal, or lanthanide metal;}</math>  <math>x = \text{organic or inorganic anion;}</math>  <math>m = \text{a positive integral number between 1 and 20;}</math>  <math>n = \text{a positive integral number between 1 and 30;}</math>  <math>y = \text{a positive integral number between 1 and 30;}</math>  <math>p = \text{a positive integral number between 1 and 3;}</math></p>	<p>q = a positive integral number between 0 and 2.</p> <p><b>USE</b>  The acid catalyst is useful for producing allyl alcohols by reacting  a carbonyl compound and an allylation agent.</p> <p><b>ADVANTAGE</b>  The acid catalyst can be easily produced and after being used for  production of an allyl alcohol etc, it can be easily recovered and re-  used.</p> <p><b>PREFERRED CONDITIONS</b>  M in the formula (1) is pref scandium (III) (most pref), yttrium  (III), lanthanum (III), cerium (III), or samarium (III). X is pref an  anion of such an inorganic acid as nitric acid, sulphuric acid,  phosphoric acid, hydrochloric acid and perchloric acid or such an  organic acid as trifluoromethylsulphuric acid, acetic acid and  trifluoroacetic acid.</p> <p>JP 09290163-A+</p>
<p><b>PREPARATION</b>  The acid catalyst is prepared by reacting H type polymer  compound having a unit of formula (2):  <math display="block">((([-(-CF_2-CF_2)_n-CF-CF_2-]_y-O-CF(R_1)-CF(R_2)-)_m-O-CF(R_1)-CF(R_2)-SO_3H (2)</math>  and an organic acid or inorganic acid salt of group III metal or  lanthanide metal of formula (3):  <math display="block">M_sX_s (3)</math>  in the presence of a polar solvent;  r = 1 or 2;  s = 1, 2 or 3.</p> <p><b>EXAMPLE</b>  25.0 g of nafion and 30 ml of acetonitrile were added to 200 ml  flask and heated to 50°C with stirring. 2.6 g of scandium trichloride  6H<sub>2</sub>O dissolved in 30 ml of acetonitrile was added thereto dropwise  over 1 hour, then heated further to 95°C and subjected to reaction at  the same temperature for 10 hours. Then the soln was cooled to 25°C</p>	<p>and filtered under reduced pressure and washed with acetonitrile and  dried under reduced pressure at 90°C to give 25.4 g of an acid catalyst  of the present invention .(SV)  (8pp055DwgNo.0/0)</p> <p>JP 09290163-A</p>